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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-------------------|-------------|----------------------|---------------------|------------------|
| 10/557,758        | 11/17/2005  | Gregory L. Branch    | 110120.402          | 1471             |
| 31740             | 7590        | 12/10/2007           | EXAMINER            |                  |
| THOMAS LOOP       |             |                      | KUHN, ALLAN R       |                  |
| P.O. BOX 21466    |             |                      |                     |                  |
| SEATTLE, WA 98111 |             |                      |                     |                  |
|                   |             |                      | ART UNIT            | PAPER NUMBER     |
|                   |             |                      | 1791                |                  |
|                   |             |                      | MAIL DATE           | DELIVERY MODE    |
|                   |             |                      | 12/10/2007          | PAPER            |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/557,758

**Applicant(s)**

BRANCH ET AL.

**Examiner**

Allan Kuhns

**Art Unit**

1791

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 15-19, 23-25 and 28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15-19, 23-25 and 28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 15-19, 24, 25 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kumar et al. (5,684,055) in view of Grancio et al. (4,386,188) and Rubens et al. (4,693,856) as set forth in the rejection of claims 15-21, 24, 25 and 28, and further in view of Johnson et al. (4,424,287). While Kumar et al. appear not to teach the aspect of thermoforming a thermoplastic material, such is taught by Johnson et al. at column 7, lines 48-52. Since Johnson et al. teach the aspect of thermoforming the thermoplastic material immediately after forming a foam, it would have been obvious to one of ordinary skill in the art to thermoform the material produced by the process of Kumar et al. as soon as it is foamed because Johnson et al. state at column 2, lines 14-19 that if a foam material is thermoformed without aging, improvements in tensile strength are observed. In addition, it would have been obvious to one of ordinary skill in the art to thermoform a foam immediately after its formation in order to optimize the process. Based on the density reduction reported by Kumar et al. in example 1 during the process of forming the foam (note column 6, lines 1 and 2), it is submitted that the foam, when formed, contains more than 0.5% by weight of gas, such that immediate thermoforming of the foam would inherently occur before the gas concentration falls below the 0.5% limit of claim 15. Johnson et al. effectively teach thermoforming a

plasticized material by noting at column 1, lines 33-35 that a temperature above the softening point of the resin is required by a thermoforming process.

3.Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kumar et al. in view of Grancio et al., Rubens et al. and Johnson et al. as applied to claims 15-19, 24, 25 and 28 above, and further in view of Kumar (5,223,545) as set forth in previous Office actions.

4.Applicants' arguments filed November 7, 2007 have been fully considered but they are not persuasive. Applicants' arguments are considered to be moot by the examiner based on the revised ground of rejection introduced in this Office action.

5.Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allan Kuhns whose telephone number is (571) 272-1202. The examiner can normally be reached on Monday to Thursday from 7:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson, can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Allan R. Kuhns*  
ALLAN R. KUHNS  
PRIMARY EXAMINER AU 1791